



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,302	01/25/2005	Salvatore Patti	26570U	6412
20529	7590	06/01/2006	EXAMINER	
<b>NATH &amp; ASSOCIATES</b> 112 South West Street Alexandria, VA 22314				KERSHTEYN, IGOR
		ART UNIT		PAPER NUMBER
				3745

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/522,302	PATTI, SALVATORE
	Examiner	Art Unit
	Igor Kershteyn	3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 January 2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/25/2005.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities:

Claim 1 recites the limitation "the root" in 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the end" in 16. There is insufficient antecedent basis for this limitation in the claim.

In claim 1, line 22, "(4)" should be changed to -(U)--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagamori et al. (5,611,667).

In figures 1-7, Nagamori et al. teach a centrifugal fan impeller 21 having an axis of rotation O and comprising one or more modules (not numbered), comprising:

a mounting disc 23,

at least one connecting ring 25 and

a plurality of blades 24 extending between the mounting disc 23 and the connecting ring 25,

the blades 24 being connected to the disc 23 and ring 25 at an angle relative to the axis O of the impeller 21,

the connecting ring 25 is positioned on an outer diameter in respect to the blades 24,

whereby the inner part of the mould for producing the fan impeller can be extracted axially from both sides of the fan impeller. *It is noted that that the claim scope is not limited by the claim language* “whereby the inner part of the mould for producing the fan impeller can be extracted axially from both sides of the fan impeller” because *this language makes it optional but does not limit claim 1 to a particular structure. See MPEP 2111.04 [R-3]. And further, if Applicant would amend claim 1 to positively claim the above components, it should be noted that claim 1 would become a product-by-process claim and the apparatus or structure claimed as identical to that described in the reference presented by the examiner and thus anticipated by the reference because patentability of a product does not depend on its method of production. See MPEP 2113.*

Nagamori et al. do not disclose expressly the impeller being characterized in that the angle at which the blades are inclined is 10 degrees, in that in that the profile of each blade at the root is inclined at an angle ranging from 50 to 80 degrees, and in that the profile of each blade at the end is inclined at an angle ranging from 33 to 63 degrees, said angles at the root and at the end of the blade being defined as the angles made by the profile of the blade, at the root and end of the blade respectively, with respect to an impeller radius passing through the leading edge of the profile,

characterized in that each blade has a straight leading edge inclined at an angle ranging from 0 to 40 degrees with respect to the axis of the impeller, each blade has a straight trailing edge parallel to the axis of the impeller, each blade has a straight leading edge inclined at an angle of 12.65 degrees with respect to the axis of the impeller, the profile of each blade at the root is inclined at an angle of 65.2 degrees, the profile of each blade at the end is inclined at an angle of 48.2 degrees.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to make the impeller being characterized in that the angle at which the blades are inclined is 10 degrees, in that in that the profile of each blade at the root is inclined at an angle ranging from 50 to 80 degrees, and in that the profile of each blade at the end is inclined at an angle ranging from 33 to 63 degrees, said angles at the root and at the end of the blade being defined as the angles made by the profile of the blade, at the root and end of the blade respectively, with respect to an impeller radius passing through the leading edge of the profile characterized in that each blade has a straight leading edge inclined at an angle ranging from 0 to 40 degrees with respect to the axis of the impeller, each blade has a straight trailing edge parallel to the axis of the impeller, each blade has a straight leading edge inclined at an angle of 12.65 degrees with respect to the axis of the impeller, the profile of each blade at the root is inclined at an angle of 65.2 degrees, the profile of each blade at the end is inclined at an angle of 48.2 degrees because Applicant has not disclosed that having such an impeller provides an advantage, is used

for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with configuration of Nagamori et al. because both impellers perform the same function of displacing fluid media with improved efficiency and decreased noise.

Therefore, it would have been an obvious matter of design choice to modify the impeller of Nagamori et al. to obtain the invention as specified in claim 1, 2, and 4-8.

Claims 1, 3, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nabeshima et al. (6,158,954).

In figures 1-5, Nabeshima et al. teach a centrifugal fan impeller 11 having an axis of rotation 14 and comprising one or more modules (not numbered), comprising:

a mounting disc 13,

at least one connecting ring 15 and

a plurality of blades 12 extending between the mounting disc 13 and the connecting ring 13,

the blades 12 being connected to the disc 13 and ring 13 at an angle relative to the axis 14 of the impeller 11,

the connecting ring 13 is positioned on an outer diameter in respect to the blades 12,

whereby the inner part of the mould for producing the fan impeller can be extracted axially from both sides of the fan impeller. *It is noted that that the claim scope is not limited by the claim language* "whereby the inner part of the mould for producing the fan

impeller can be extracted axially from both sides of the fan impeller" because this language makes it optional but does not limit claim 1 to a particular structure. See MPEP 2111.04 [R-3]. And further, if Applicant would amend claim 1 to positively claim the above components, it should be noted that claim 1 would become a product-by-process claim and the apparatus or structure claimed as identical to that described in the reference presented by the examiner and thus anticipated by the reference because patentability of a product does not depend on its method of production. See MPEP 2113.

Nabeshima et al. do not disclose expressly the impeller being characterized in that the angle at which the blades are inclined is 10 degrees, in that in that the profile of each blade at the root is inclined at an angle ranging from 50 to 80 degrees, and in that the profile of each blade at the end is inclined at an angle ranging from 33 to 63 degrees, said angles at the root and at the end of the blade being defined as the angles made by the profile of the blade, at the root and end of the blade respectively, with respect to an impeller radius passing through the leading edge of the profile, the profile of each blade at the root is inclined at an angle of 65.2 degrees, the profile of each blade at the end is inclined at an angle of 48.2 degrees.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to make the impeller being characterized in that the angle at which the blades are inclined is 10 degrees, in that in that the profile of each blade at the root is inclined at an angle ranging from 50 to 80 degrees, and in that the profile of each blade at the end is inclined at an angle ranging

from 33 to 63 degrees, said angles at the root and at the end of the blade being defined as the angles made by the profile of the blade, at the root and end of the blade respectively, with respect to an impeller radius passing through the leading edge of the profile, the profile of each blade at the root is inclined at an angle of 65.2 degrees, the profile of each blade at the end is inclined at an angle of 48.2 degrees because Applicant has not disclosed that having such an impeller provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with configuration of Nabeshima et al. because both impellers perform the same function of displacing fluid media with improved efficiency and decreased noise.

Therefore, it would have been an obvious matter of design choice to modify the impeller of Nabeshima et al. to obtain the invention as specified in claim 1, 3, 7, and 8.

#### ***Prior Art***

Prior art made of record but not relied upon in this Office action is considered pertinent to Applicant's disclosure and consist of two patents.

Ranz (4,329,118) is cited to show a centrifugal fan impeller having an axis of rotation and comprising one or more modules, comprising: a mounting disc, at least one connecting ring and a plurality of blades extending between the mounting disc and the connecting ring, the connecting ring is positioned on an outer diameter in respect to the blades.

Arrasmith et al. (6,883,411) is cited to show a centrifugal fan impeller having an axis of rotation and comprising one or more modules, comprising: a mounting disc, at least one connecting ring and a plurality of blades extending between the mounting disc and the connecting ring, the blades being connected to the disc and ring at an angle relative to the axis of the impeller, the connecting ring is positioned on an outer diameter in respect to the blades.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK  
May 25, 2006



**Igor Kershteyn  
Patent examiner.  
Art Unit 3745**